

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Kiichi MEGURO, et al.

Application No.: 10/510,848

Filed: October 13, 2004

For: DIAMOND COMPOSITE SUBSTRATE AND A METHOD FOR MANUFACTURING
SAME



Customer Number: 20277

Confirmation Number: CNF NO. 3835

Group Art Unit: 1765

Examiner: Not yet assigned

REQUEST FOR CORRECTED FILING RECEIPT

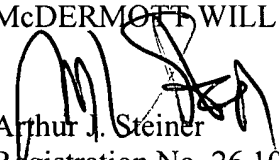
Mail Stop OFR
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is a copy of the Filing Receipt received from the U.S. Patent and Trademark Office in the above-referenced application. It is noted that the third Inventor has been omitted. Attached is a copy of the Front Page of the Published International Application and the Declaration document, which evidences that the third Inventor's name and residence should read: **Takahiro IMAI, Itami-shi, Hyogo, JAPAN**. It is requested that a corrected filing receipt be issued.

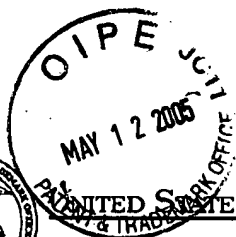
Respectfully submitted,

McDERMOTT WILL & EMERY LLP


Arthur J. Steiner
Registration No. 26,106

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 AJS:blg
Facsimile: 202.756.8087
Date: May 12, 2005

**Please recognize our Customer No. 20277
as our correspondence address.**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/510,848	10/13/2004	1765	1484	50389-053	3	28	3

CONFIRMATION NO. 3835

20277

MCDERMOTT WILL & EMERY LLP
 600 13TH STREET, N.W.
 WASHINGTON, DC 20005-3096

FILING RECEIPT



OC000000015503481

Date Mailed: 04/08/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Kiichi Meguro, Itami-shi, Hyogo, JAPAN;
 Yoshiyuki Yamamoto, Itami-shi, Hyogo, JAPAN;
 → Takahiro IMAI, Itami-shi, Hyogo, JAPAN;

Power of Attorney: The patent practitioners associated with Customer Number 20277.

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/JP04/00532 01/22/2004

Foreign Applications

JAPAN 2003-018736 01/28/2003

RECEIVED

APR 13 2005

MCDERMOTT, WILL & EMERY

Projected Publication Date: To Be Determined - pending completion of Security Review

Non-Publication Request: No

Early Publication Request: No

Title

Diamond composite substrate and process for producing the same

Preliminary Class

117

**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

(19) 世界知的所有権機関
国際事務局



(43) 国際公開日
2004 年 8 月 12 日 (12.08.2004)

PCT

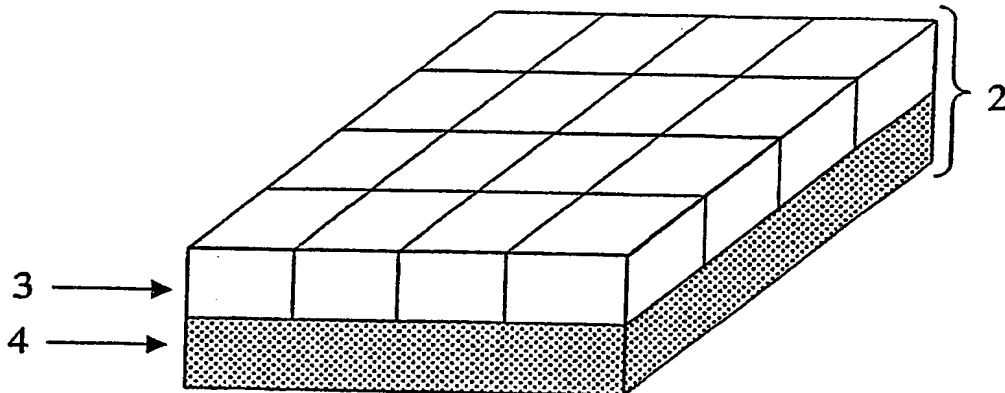
(10) 国際公開番号
WO 2004/067812 A1

- (51) 国際特許分類⁷: C30B 29/04, C23C 16/27 (72) 発明者; および
(21) 国際出願番号: PCT/JP2004/000532 (75) 発明者/出願人(米国についてのみ): 目黒 貴一 (ME-
(22) 国際出願日: 2004 年 1 月 22 日 (22.01.2004) GURO, Kiichi) [JP/JP]; 〒6640016 兵庫県伊丹市昆陽
(25) 国際出願の言語: 日本語 北一丁目 1 番 1 号 住友電気工業株式会社 伊丹製作
(26) 国際公開の言語: 日本語 所内 Hyogo (JP). 山本 喜之 (YAMAMOTO, Yoshiyuki)
(30) 優先権データ: [JP/JP]; 〒6640016 兵庫県伊丹市昆陽北一丁目 1 番
特願2003-018736 2003 年 1 月 28 日 (28.01.2003) JP 1 号 住友電気工業株式会社 伊丹製作所内 Hyogo (JP).
(71) 出願人(米国を除く全ての指定国について): 住友電 今井 貴浩 (IMAI, Takahiro) [JP/JP]; 〒6640016 兵庫県
気工業株式会社 (SUMITOMO ELECTRIC INDUS- 伊丹市昆陽北一丁目 1 番 1 号 住友電気工業株式
TRIES, LTD.) [JP/JP]; 〒5410041 大阪府大阪市中央 社 伊丹製作所内 Hyogo (JP).
区 北浜四丁目 5 番 3 3 号 Osaka (JP). (74) 代理人: 酒井 正己, 外 (SAKAI, Masami et al.); 〒
1070052 東京都港区赤坂 4 丁目 1 3 番 5 号 赤坂オ
フィスハイツ Tokyo (JP).

[続葉有]

(54) Title: DIAMOND COMPOSITE SUBSTRATE AND PROCESS FOR PRODUCING THE SAME

(54) 発明の名称: ダイヤモンド複合基板及びその製造方法



(57) Abstract: A highly tough diamond substrate of large area and high quality for use in semiconductor materials, electronic components, optical parts, etc.; and a process for producing the same. A diamond composite substrate is produced by superimposing a diamond polycrystal film on a surface of diamond single-crystal substrate. With respect to this diamond composite substrate, it is preferred that plane opposite in parallel relationship to the main plane of largest area of diamond single-crystal substrate as {100} plane be formed by the superimposed diamond polycrystal film. Diamond composite substrate (2) may be provided by forming diamond single-crystal substrate (3) from multiple diamond single crystals with the orientations of main planes uniformalized and joining the multiple diamond single crystals by means of diamond polycrystal layer (4). Further, using the diamond single crystals as seed crystals, diamond single crystals formed by a vapor-phase synthesis may be superimposed on a surface thereof.

(57) 要約: 本発明の目的は、半導体材料、電子部品、光学部品などに用いられる、高靱性でかつ、大面積・高品質なダイヤモンド基板及びその製造法を提供することである。ダイヤモンド単結晶基板の表面にダイヤモンド多結晶膜を積層させてダイヤモンド複合基板とする。該複合基板は、ダイヤモンド単結晶基板の最も面積の大きい主たる面を{100}面とし、この面に平行な対面に、前記ダイヤモンド多結晶膜が積層されていることが好ましい。該ダイヤモンド単結晶基板3を、主たる面の面方位が揃った複数個のダイヤモンド単結晶から構成し、これら複数個のダイヤモンド単結晶を該ダイヤモンド多結

[続葉有]



(81) 指定国 (表示のない限り、全ての種類の国内保護が可能): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NL, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

添付公開書類:

— 国際調査報告書

(84) 指定国 (表示のない限り、全ての種類の広域保護が可能): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL,

2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。



US-11123 PCT 1

Docket No.:

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter claimed and for which a patent is sought on the invention entitled DIAMOND COMPOSITE SUBSTRATE AND A METHOD FOR MANUFACTURING SAME, the specification of which

- ☐ is attached hereto.
☒ was filed on January 22, 2004 as United States Application Number PCT/JP2004/000532, or PCT International Application Number and was amended on (if applicable), or
☐ is a Continuation-In-Part (CIP) of Application Number, filed

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is known to me to be material to patentability in accordance with Title 37, Code of Federal Regulations, Section 1.56 including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35, United States Code, Section 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent or inventor's or plant breeder's right certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's, or plant breeder's rights certificate, or any PCT international application having a filing date before that of the application on which priority is claimed:

Prior Foreign Applications(s):

Number	Country	Day/Month/Year filed	Priority Claimed
JP Pat. Appl. No. 2003-18736	Japan	January 28, 2003	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

I hereby claim the benefit under 35 United States Code, Section 119(e) of any United States provisional application(s) listed below.

Prior Provisional Application(s):

Application Number	Filing Date
--------------------	-------------

Inventor's signature:

Yoshiyuki Yamamoto

September
Date: 30, 2004

Residence: Itami-shi, Hyogo, Japan

Citizenship: Japan

Post Office Address: c/o Itami Works of Sumitomo Electric Industries, Ltd.,
1-1, Koyakita 1-chome, Itami-shi, Hyogo, Japan

Full name of third inventor: Takahiro IMAI

Inventor's signature:

Takahiro Imai

September
Date: 30, 2004

Residence: Itami-shi, Hyogo, Japan

Citizenship: Japan

Post Office Address: c/o Itami Works of Sumitomo Electric Industries, Ltd.,
1-1, Koyakita 1-chome, Itami-shi, Hyogo, Japan

Full name of fourth inventor:

Inventor's signature:

Date:

Residence:

Citizenship:

Post Office Address:

Full name of fifth inventor:

Inventor's signature:

Date:

Residence:

Citizenship:

Post Office Address:

Full name of sixth inventor:

Inventor's signature:

Date:

Residence:

Citizenship:

Post Office Address:

Full name of seventh inventor:

Inventor's signature:

Date:

Residence:

Citizenship:

Post Office Address: